

Docket No. F-8691

Ser. No. 10/536,740

**REMARKS**

Claims 1-8 remain pending in this application. Claims 1 and 4-8 are rejected. Claims 2 and 3 are previously cancelled. Claims 1 and 4-8 are amended herein to clarify the invention. Other formal matters are attended to that were not addressed by the Examiner and accordingly are considered unrelated to substantive patentability issues.

**CLAIM REJECTIONS UNDER 35 U.S.C. §103(a)**

Claims 1, 4-6 and 8 are rejected as obvious over Nakanishi in view of "engineering expedient" and the Milleville reference under 35 U.S.C. §103(a). The applicant herein respectfully traverses this rejection. For a rejection under 35 U.S.C. §103(a) to be sustained, the differences between the features of the combined references and the present invention must be obvious to one skilled in the art.

It is respectfully submitted that a *prima facie* case of obviousness is not established in rejection of claims 1, 4-6 and 8. "To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine

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the reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on the applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)." MPEP §706.02(j) "Contents of a 35 U.S.C. §103 Rejection".

It is respectfully submitted that the Examiner appears to have inadvertently read the applicant's invention into the disclosure of the Nakanishi reference with regard to citing the Nakanishi reference for teaching "the outer circumference of the body portion (1) has an elliptical shape (col. 5, lines 64-68." The cited portion reads in context as follows:

Though in the above-mentioned embodiments, the convex protrusion of the seat ring is shaped arcuate in the cross-section protruding inwards as shown in Fig. 3 or 6, the present invention is applicable to a protrusion, for example, having shape (sic) of frustrum or triangle straightly tapered on both sides in cross-section. In addition, the shape of the seat ring itself may be circular, multi-angular, elliptical, or frustrum-shaped and the present invention is able to be applied to these various kinds of shaped (sic) of the seat ring.

The above paragraph refers to the cross section of the convex protrusion which is shown in Figs. 3 and 6. In these figures the cross section is taken in a plane common to a valve axis (not a valve stem axis) at the center 16 of the circular

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opening of the valve. With regard to the stated possible shapes of the seat ring itself, rather than just the protrusion on the seat ring taken in cross section, the paragraph is devoid of any suggestion that the orientation of the "shape" of the seal ring referred to is to be taken along a plane perpendicular to a valve axis at center 16. Hence, it is submitted that the reference merely teaches that a seat ring in a cross section taken along a plane of the valve axis might have an elliptical shape and that there is no teaching that the cross section of the seat ring taken along a plane perpendicular to the valve axis may be elliptical.

The fact that the statement in the Nakanishi reference is not referring to the cross section perpendicular to the valve axis would be readily evident to one skilled in the art since the multi-angular shape, and in particular, frustrum-shape would hardly be cross sections having engineering benefit for the cross section of the seal ring taken along the plane perpendicular to the valve axis. On the other hand, it should be readily evident that such shapes might be adopted to the cross-section of the seat ring taken along the plane along the valve axis. An elliptical shape along such a cross section could easily be envisioned instead of the flat top of the seal ring shown in Fig. 6. Likewise, a frustrum shape could be readily applied to the cross section shown in Fig. 6 with the protrusion sitting on the flat top of the frustrum. Indeed, the entire disclosure of the Nakanishi reference is devoted to defining the shape of the protrusion in a cross section taken along the plane of the

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valve axis. Hence, it is respectfully submitted that the references fail to teach each aspect of the subject matter of claim 1.

It is further submitted that the rejection is deficient because it does not set forth a proper rationale for modifying the references as suggested. In particular, the Examiner has failed to state why one would chose a circular shape for an inner circumference of the tubular body and an elliptical shape for the outside circumference. Even if one were to misconstrue the Nakanishi reference as teaching a cross section along a plane perpendicular to the valve axis, what is the rationale for having one shape inside and one shape outside? No reason for such a construction is set forth in the rejection.

Finally, it is respectfully submitted that the Examiner's rationale for using an elliptical shape having the claimed ratio range, i.e., the "engineering expedient," lacks basis. The Examiner believes that it would be "engineering expedient" to select the claimed shape ratio "to cooperate with an existing conduit with those dimensions." However, the Examiner has failed to make any showing that such conduit exists or would be used with a valve as claimed. Hence, it is respectfully submitted that the Examiner has not set forth the requisite rationale to make the modifications proposed.

Claim 1 further recites the following:

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a valve plug body defining a circular through valve body opening, said tubular body portion being installed in said circular through valve body opening in a compressed state such that said outer circumference portion is compressed at areas intersected by said longitudinal axis of said elliptic shape such that said inner circumference portion is deformed from said circular shape to an elliptic shape

Such a construction is not suggest by the applied references. Indeed, there is no teaching to incorporate a valve body, having an elliptical outer circumference portion and a circular inner circumference portion when formed, into a circular opening of a valve plug body so as to deform the inner circumference portion into an ellipse.

Thus, it is respectfully submitted that the rejected claims are not obvious in view of the cited references for the reasons stated above. Reconsideration of the rejections of claims 1, 4-6 and 8 and their allowance are respectfully requested.

Claims 7 is rejected as obvious over the above applied references further in view of the Schaeffer reference under 35 U.S.C. §103(a). The applicant herein respectfully traverses this rejection. For a rejection under 35 U.S.C. §103(a) to be sustained, the differences between the features of the combined references and the present invention must be obvious to one skilled in the art.

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It is respectfully submitted that the proffered combination of references cannot render the rejected claims obvious because the secondary Schaeffer reference does not provide the teaching noted above with respect to the other obviousness rejections that is absent from the Nakanishi and Milleville references. Thus, the combination of prior art references fails to teach or suggest all the claim limitations. Therefore, reconsideration of the rejection of claim 7 and its allowance are respectfully requested.

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**NO FEE DUE**

No fee is believed due. If there is any fee due the USPTO is hereby authorized to charge such fee to Deposit Account No. 10-1250.

In light of the foregoing, the application is now believed to be in proper form for allowance of all claims and notice to that effect is earnestly solicited.

Respectfully submitted,  
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